

Introduction to Health Behavior Change Support Systems

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Recent years have seen many advances in behavior change support systems and persuasive technology. Theoretical perspectives on health behavior change support systems perspectives [1], application of persuasive technology in healthcare [2,3] and effectiveness of HBCSS in healthcare have been presented in many studies [4,5]. Providing personalized medicine to consumers through providing personalized healthcare has been a focal interest in healthcare industry nowadays.

Three selected studies included personalized health behavior change, social comparison in behavior change and the cognitive work analysis and health behavior change.

Nguyen et al. [6] presented their innovative approach in smartphone sleep app. The study proposes the personalized behavior change support system for sleep deprived college students. The app provided personalized feedback to users based on the individual's personality and the chronotype. This study demonstrates that personalized feedback could be obtained through persuasive technology to enhance healthy sleep behavior [6].

Mylonopoulou et al. [7] presented different social comparison features that can be applied for health behavior change. By reviewing and analyzing twelve difference studies, the authors presented how social comparison feature is designed in IT artefacts. Based on the literature, six design dimensions of social comparison feature is presented in the paper [7].

Presenting blood pressure management as an example, Burns et al. [8] presented how cognitive work analysis can be complementary to persuasive design for designing behavior change support systems. The study discussed how cognitive work analysis and the persuasive systems design to be used together.

References

- [1] Oinas-Kukkonen, H., A foundation for the study of behavior change support systems. *Personal and Ubiquitous Computing*, 2013, 17(6): p. 1223-1235.
- [2] Matthews, J., et al., Persuasive Technology in Mobile Applications Promoting Physical Activity: a Systematic Review. *Journal of Medical Systems*, 2016, 40(3): p. 1-13
- [3] Win K.T., et al., Persuasive Systems Design features in Promoting Medication Management for consumers, *Proceedings of the 50th Hawaii International Conference on System Sciences*, 2017, (pp. 3326-3335). HICSS.
- [4] Lehto T. & Oinas-Kukkonen H. (2011) Persuasive Features in Web-Based Alcohol and Smoking Interventions: A Systematic Review of the Literature. *Journal of Medical Internet Research*, 13(3), e46.
- [5] Karppinen P., et al. (2016) Persuasive User Experience in Health Behavior Change Support System: A 12-month Study for Prevention of Metabolic Syndrome. *International Journal of Medical Informatics*, Vol. 96, December, pp. 51-61.
- [6] Nguyen H., Ruiz C., Wilson V., Strong D. & Djasasbi S., Using Personality Traits and Chronotype to Support Personalization and Feedback in a Sleep Health Behavior Change Support System. In this issue.
- [7] Mylonopoulou V., Väyrynen K. & Isomursu M., Designing for Behavior Change - 6 Dimensions of Social Comparison Features, In this issue.
- [8] Burns C., Rezai L.S. & St. Maurice J., Understanding the Context for Health Behavior Change with Cognitive Work Analysis and Persuasive Design, In this issue.